REMARKS

Claims 1, 3-5 and 7-10 are pending in this application. Claims 1 and 7 have been amended. No new mater has been introduced.

At the outset, Applicants submit that the amendments to claims 1 and 7 have basis in the patent application on page 4, lines 7-10 and lines 15-17. The amendments to claims 1 and 7 do not extend the scope of protection of the claimed subject matter as they -- in fact -- narrow the scope of protection. The amendments to claims 1 and 7 also overcome the rejection of independent claims 1 and 7 as not being patentable over Öttle. In the December 22, 2008 Office Action, the examiner states that the fact that the gas leaves the basket inside the reactor shell is not identical to the fact that the gas can penetrate into the space between basket and pressure shell and, thereby, equalize the pressure on both sides of the basket. Claims 1 and 7 have been amended to further specify that the basket bottom and the reactor shell do not coincide in a gas tight manner. Consequently, the gas can penetrate in between the basket and the reactor shell. The amendments address the examiner's patentability concern by distinguishing the invention over Öttle, as discussed below.

Claims 1 and 7-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Öttle in view of Fujitani and Ravault. This rejection is respectfully traversed.

The reactor of Öttle comprises a reactor shell and two gas impermeable foil sheets and flanges. The examiner asserts that the foil prevents the sample gas from circumventing the catalyst bed. From Öttle, it is unclear, however, whether the foils are connected to each other in a gas tight manner or not. If they are, then no gas can penetrate into the space between the foil and the reactor shell. Conversely, if they are not, unreacted gas can introduce itself into this space and undergo further reactions (especially if it were the feed gas of the claimed invention).

Further, the reactor of Öttle does not comprise a reactor shell for high pressure, as it is an exhaust gas device. Similarly, Öttle does not disclose a high temperature basket, as exhaust gas most often is not higher than 500°C. In Öttle, no basket bottom is disclosed, the catalyst carrier

rests on a ring 34 (if the reactor is vertical) and (if it is horizontal) the catalyst carrier rests on the insulation 28.

Consequently, Öttle does not disclose or suggest a high-pressure reactor shell, a high temperature basket in one piece, a basket with an inlet channel in gas tight connection with the reactor shell and a basket with a bottom not being in a gas tight connection with the reactor shell, and a basket bottom, which supports a catalyst bed, preferably of catalyst particles.

Fujitani discloses a reactor for catalytic, partial oxidation. The reactor of Fujitani does not comprise a basket as it is a part of an installation in a combustion engine. The catalyst of Fujitani does not comprise a coating of catalyst on the other side of a reactor wall, where a heater is attached. Further, the catalyst of Fujitani does not comprise platinum or ruthenium.

In the December 22, 2008 Office Action, the examiner states that it would have been obvious to substitute the catalyst bed of Öttle with the catalyst of Fujitani. Applicants disagree. Moreover, even if, *arguendo*, the catalyst of Fujitani was substituted for the catalyst bed of Öttle, the substitution would still not lead to the reactor of the claimed invention (i.e., a reactor comprising a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel, side walls and a bottom, where the inlet channel is in gas tight connection with reactor shell and the bottom is not in a gas tight connection with reactor shell, with the basket bottom supporting the catalyst bed).

Ravault fails to address the deficiencies of Öttle and Fujitani. The ceramic glaze of Ravault provides a gas tight layer on a porous wall, while the ceramic layer of claimed invention is for insulation.

A combination of the ceramic glaze of Ravault on the reactor of Öttle with the catalyst of Fujitani would not lead to the reactor of the claimed invention, which comprises a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel, side walls, a bottom, and an inlet channel in gas tight connection with reactor shell, and where the bottom is not in a gas tight connection with reactor shell.

Claims 3-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Öttle in view of Fujitani and Ravault and further in view of Mentschel. This rejection is respectfully traversed.

In the Office Action dated December 22, 2008, the examiner asserts that Mentschel suggests installing a heater outside the foil of the modified reactor of Öttle, to control the temperature. Applicants submit that this further modification would still not lead to the reactor of the claimed invention (i.e., a reactor comprising a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel, side walls and a bottom, the inlet channel being in gas tight connection with reactor shell and the bottom not being in a gas tight connection with reactor shell, and the basket bottom supporting the catalyst bed).

Even if one skilled in the art would have been motivated to install a heater (such as the heater of Mentschel) inside a pressure shell but outside a basket, or inside a shell as the one of Öttle but outside the foil of Öttle, such resulting reactor would still not be a reactor similar to the reactor of the claimed invention (i.e., a reactor comprising a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel, side walls and a bottom, the inlet channel being in gas tight connection with reactor shell and the bottom not being in a gas tight connection with reactor shell, and where the basket bottom supports the catalyst bed).

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Ottle in view of Fujitani and Ravault and further in view of Werges. This rejection is respectfully traversed.

Even if the reactor of Öttle was oriented in a vertical position and equipped with the grid of Werges, the proposed combination would still not lead to the reactor of the claimed invention (i.e., a reactor comprising a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel, side walls and a bottom, the inlet channel being in gas tight connection with reactor shell and the bottom not being in a gas tight connection with reactor shell, and the basket bottom, in the shape of a grid, supporting the catalyst bed).

In the Office Action dated December 22, 2008, the examiner asserts that a flange supports a catalyst bed. In the reactor of Öttle, the flange 12 is placed outside the catalyst and the flange 14 just inside the flange 12. This flange does not -- and will not -- support a bed with catalyst particles, when the reactor is installed in a vertical position.

The reactor of Öttle comprises a catalytic body (ref. 22 of Fig. 1), which is surrounded by two sheets of metallic foil. These two parts are either:

-not tightly connected to each other, meaning that no gas can migrate to the space between the reactor shell and the foil; or

-tightly connected to each other, meaning that no gas can migrate to the space between the reactor shell and the foil through a space between the two foil sheets.

The reactor of Öttle has an identical construction at the inlet and at the outlet of the reactor, meaning that the gas can either flow to the space between the shell and the foil at both ends, or the gas cannot migrate to this space. In other words, the gas in Öttle can either flow from the inlet to the outlet in this space without reacting in the catalyst bed at all, or the gas cannot create same pressure inside and outside the foil.

The reactor of Öttle is in contrast to the reactor of the claimed invention. Amended claims 1 and 7 recite that the reactor comprises a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel side walls and a bottom, the inlet channel being in gas tight connection with the reactor shell and the bottom not being in a gas tight connection with the reactor shell.

The reactor of the claimed invention has an outlet from the basket, which is not in a gas tight connection with the reactor shell (page 4, lines 8-12). Thus, when the gas leaves the basket inside the reactor shell, the gas enters the space between the basket and the reactor shell, which achieves the same pressure as inside the basket.

To obtain an insulating layer (as in the basket of the claimed invention) it would not be obvious to take a layer with the purpose of tightening a wall (as in reactor of Ravault). The layer in the reactor of Öttle, even when modified, would still not lead to the reactor of the claimed invention (comprising a high pressure reactor shell with a high temperature basket, the basket comprising an inlet channel, side walls, and a bottom, the inlet channel being in gas tight connection with reactor shell and the bottom not being in a gas tight connection with reactor shell, and where the basket bottom supports the catalyst bed).

Allowance of all pending claims is solicited.

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